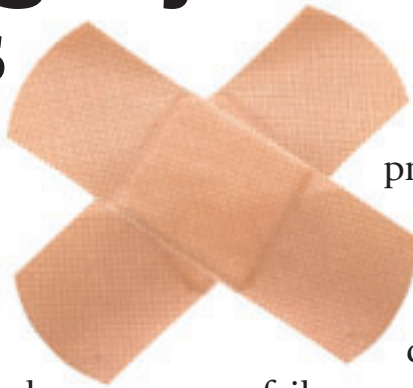


Dr. Elliot Frohman on managing injection site reactions

Four of the medications currently approved by the FDA (the U.S. Food and Drug Administration) for controlling MS require regular injections. At the University of Texas Southwestern Medical Center, we are following approximately 5,000 people with MS. The majority have relapsing-remitting MS or secondary-progressive MS, the relapsing forms of MS, and we're treating almost all of these patients with either Betaseron, Avonex, Rebif, or Copaxone. This means our patients are injecting a medication on a regular basis, and they all face the risks and challenges of a continuing long-term treatment.

Experience in our clinic shows clearly that people can do injections and do them safely, but their success depends on how well they understand what to expect. First, they need a realistic understanding of what a disease-modifying treatment is expected to achieve. These medications reduce the number of attacks—but they do not



prevent them. Most patients will experience a few. If they understand this possibility, they are a lot less likely to consider the medication a failure and stop taking it after having an MS attack.

Second, people must be expertly instructed on how to prepare their medication and inject it in the best possible way. Poor technique is a major cause of skin reactions at injection sites—which in turn lead people to quit treatment.

People taking subcutaneous injections (shallow, just under the skin) tend to have more problems than those who take the deeper once-a-week intramuscular injection. But any break of the skin has some potential for pain, and the deeper injection may produce mild bruising and somewhat more significant pain. Reactions to subcutaneous injections are generally mild. But some may evolve into potentially serious lesions, culminating in infections and possible death of skin tissue. These require antibiotic therapy. Some may even require surgical repair.

Practical pearls and pitfalls

Planning:

- ▶ Allow time for the medication to warm up to room temperature.
- ▶ Ask your health-care provider if a thinner needle (25 gauge) would be right for you.
- ▶ If you take the intramuscular injection and have a lean body mass, ask about using a shorter needle.
- ▶ Stop smoking—At least in our clinic, we see an association between an increased likelihood of skin reactions and smoking.

Mechanics:

- ▶ Consider an “autoinjector” for subcutaneous injections.
- ▶ Rotate your injection sites! Consider keeping a map instead of relying on memory.
- ▶ Avoid injecting at or near areas where an adverse skin reaction occurred in the past.

To minimize pain, try:

- ▶ Local anesthetics, such as EMLA or aerosolized ethyl chloride.
- ▶ Topical anesthetics, such as gabapentin, lidocaine, or clonidine creams.
- ▶ Apply ice to the site for 30 to 60 seconds **before cleaning and injecting**.

The countdown:

- ▶ Wash your hands.
- ▶ Clean site thoroughly.
- ▶ Apply alcohol with a small pad.
- ▶ Allow alcohol to dry completely.
- ▶ Make sure the needle tip is dry and free of any medication.
- ▶ Push the needle in all the way.

Aftermath:

- ▶ Use a 1–2% hydrocortisone ointment to prevent red swelling, but **do not** use such an ointment if there is any sign of infection.

For unknown reasons, women seem to develop serious skin reactions more often than men do. There also appears to be an association between higher-dose interferon and more serious problems. Daily Copaxone use has caused some people to develop permanent dimpling, pitting, or irregular areas of skin depression, due to changes in fatty tissues over time. And in one person under my care, Avonex was involved in a deep intramuscular abscess. (He recovered and is still using Avonex.) In other words, serious problems are rare, but none of the current self-injectable drugs are completely risk-free.

The key concept is prevention

Both health-care providers and people injecting disease-modifying therapy must be aware of the potential for injection site reactions, the role of proper injection techniques in preventing them, and the importance of careful observation and prompt communication with a health-care professional to manage problems if they do occur. ■

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